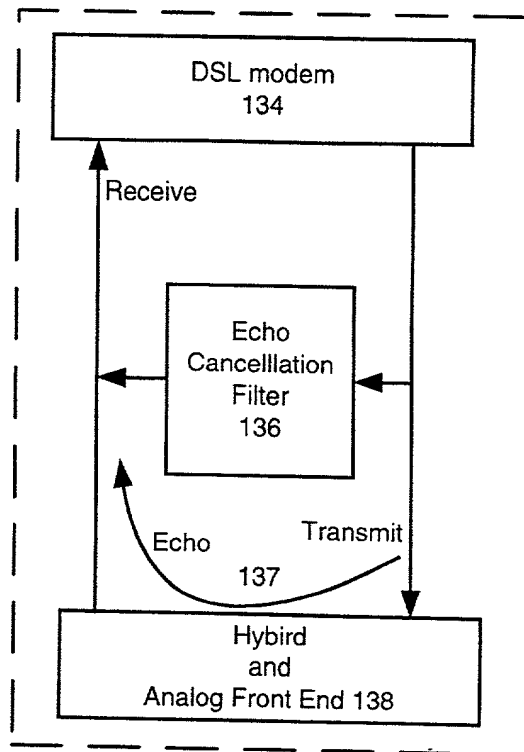


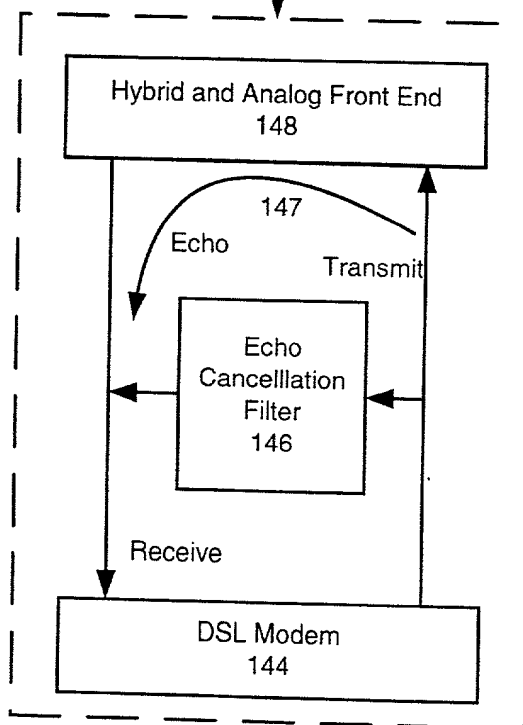
FIG. 1a



CO SIDE DSL
Modem
(DSLAM)
132

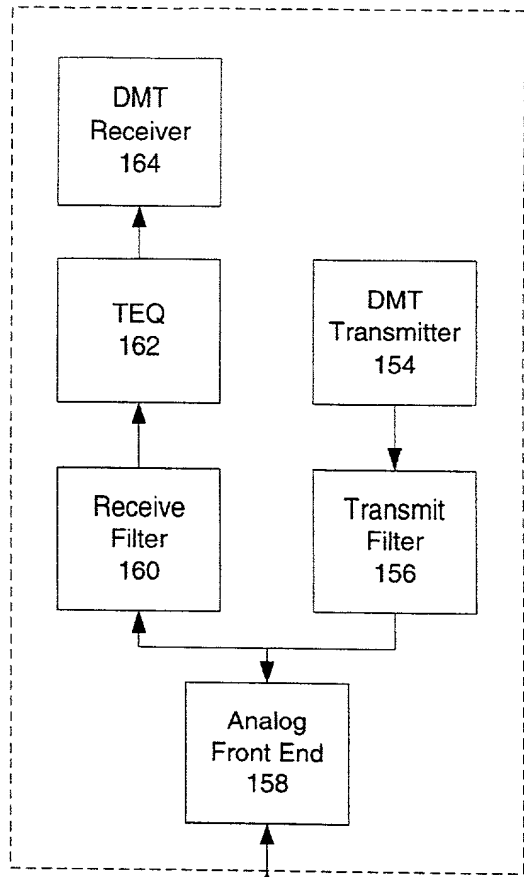
Twisted
Copper Pair
140

130



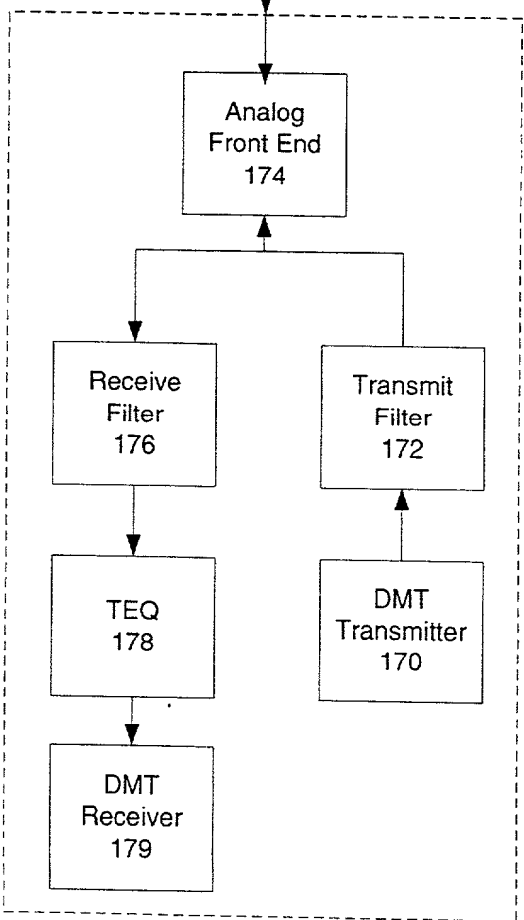
CPE DSL
Modem
142

FIG. 1b



CO SIDE DSL
Modem
(DSLAM)
152

Twisted
Copper Pair
166



CPE DSL
Modem
168

150

FIG. 1c

180

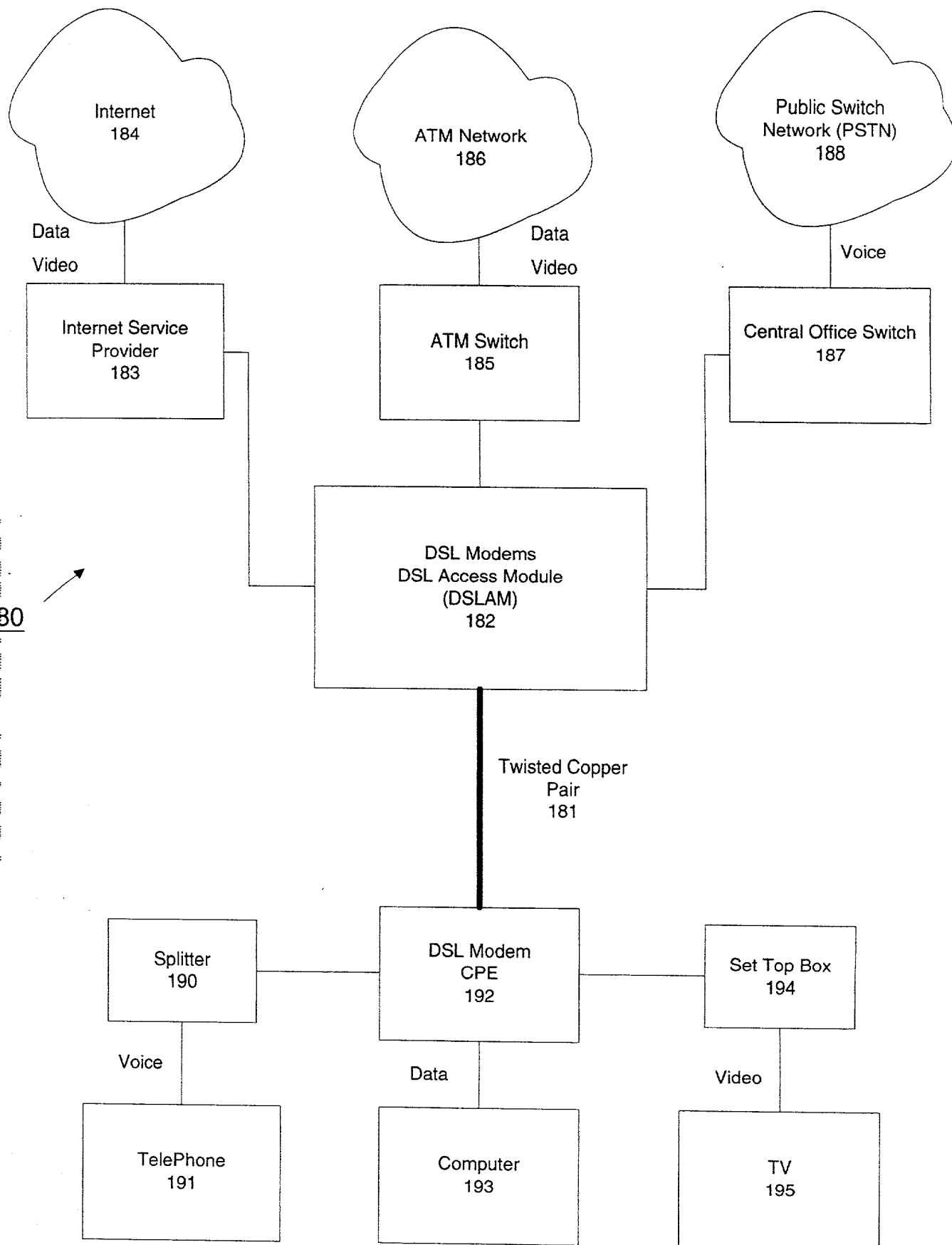


FIG. 1d

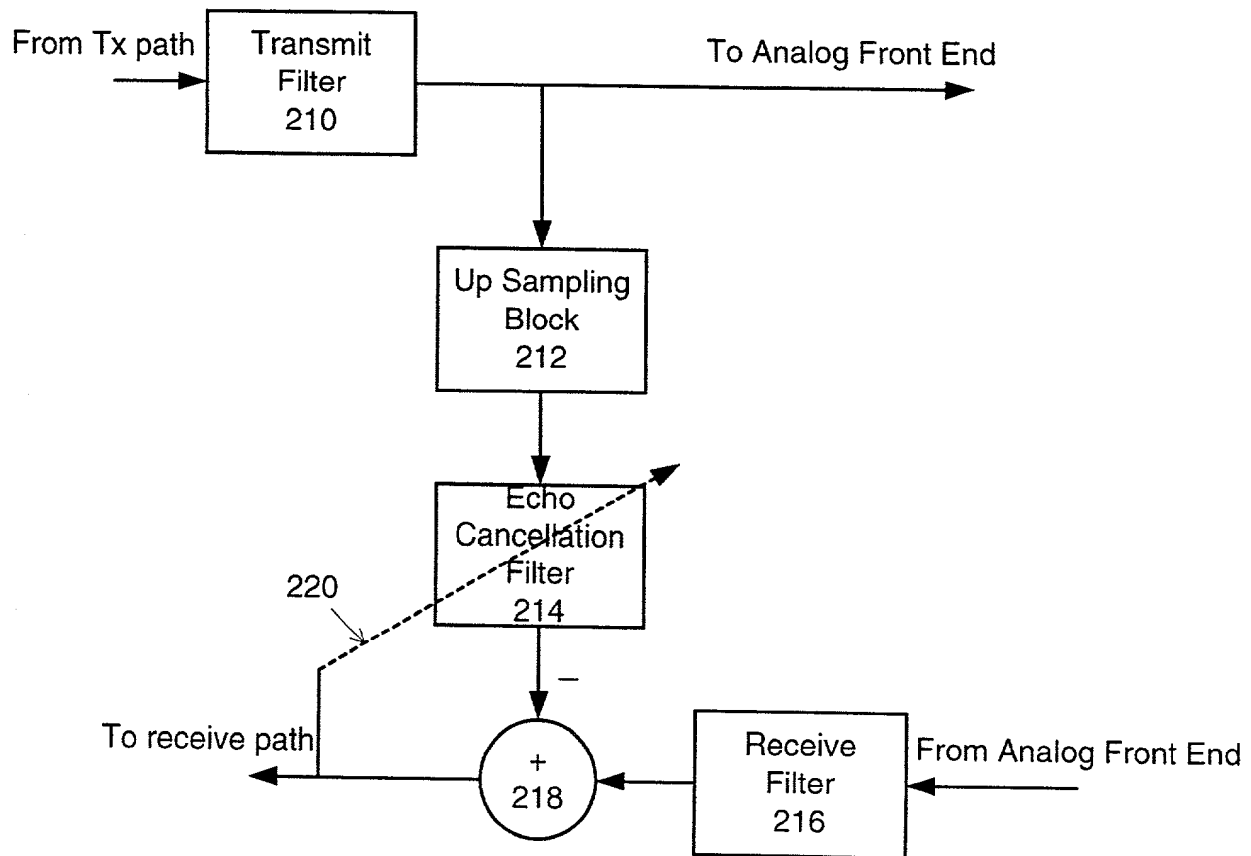


FIG. 2

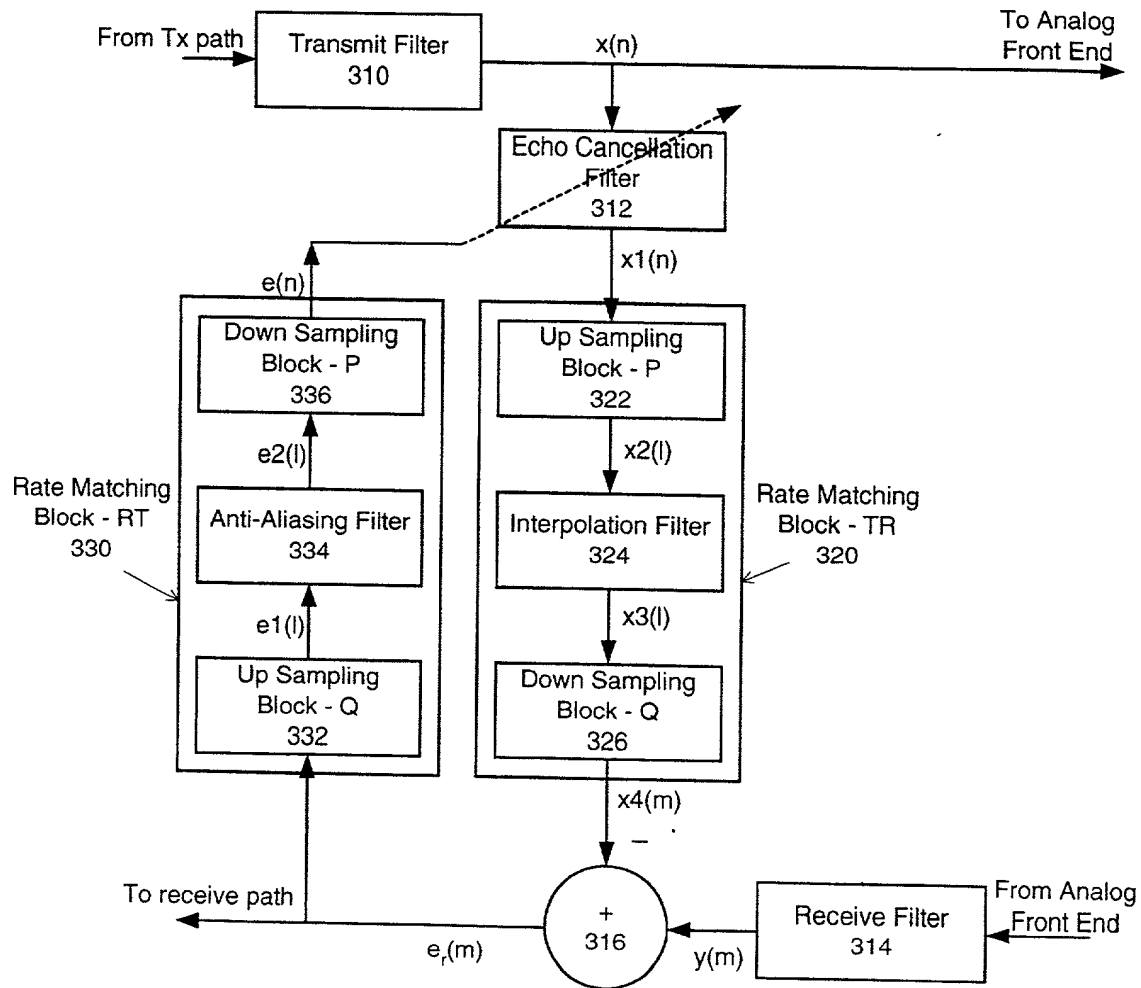


FIG. 3

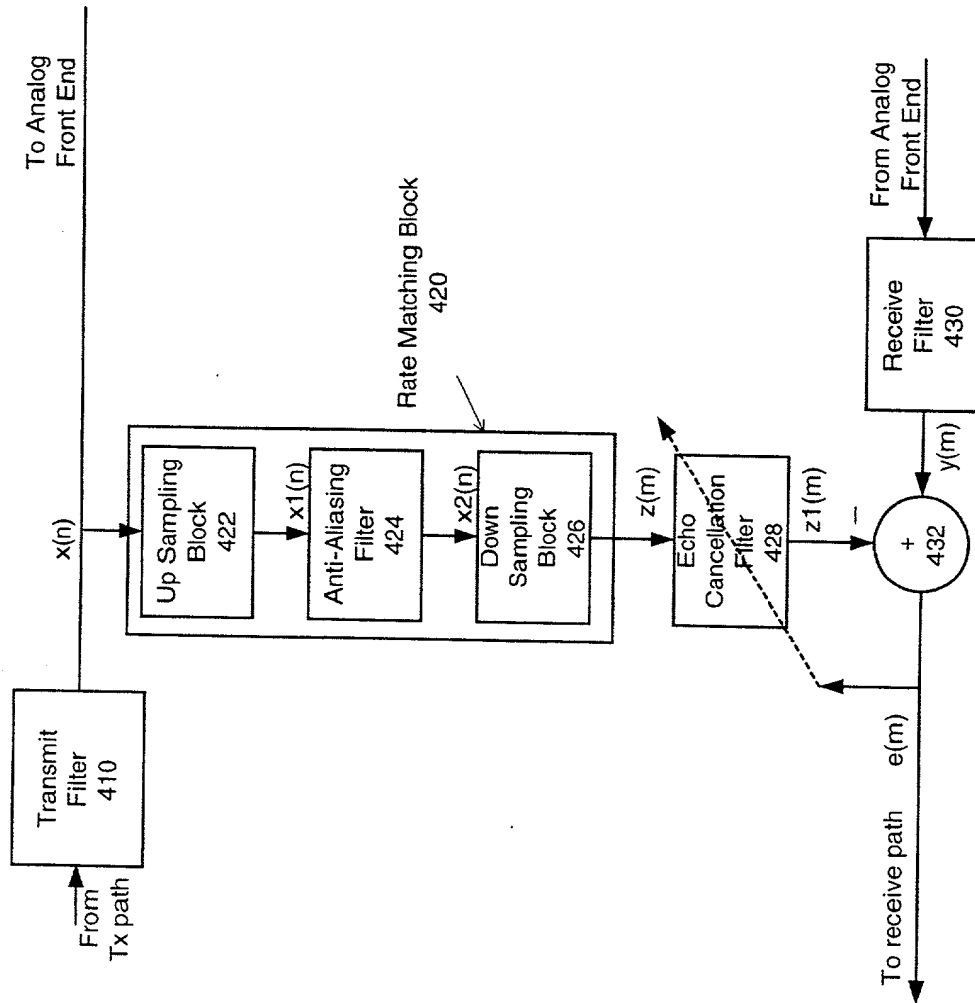


FIG. 4

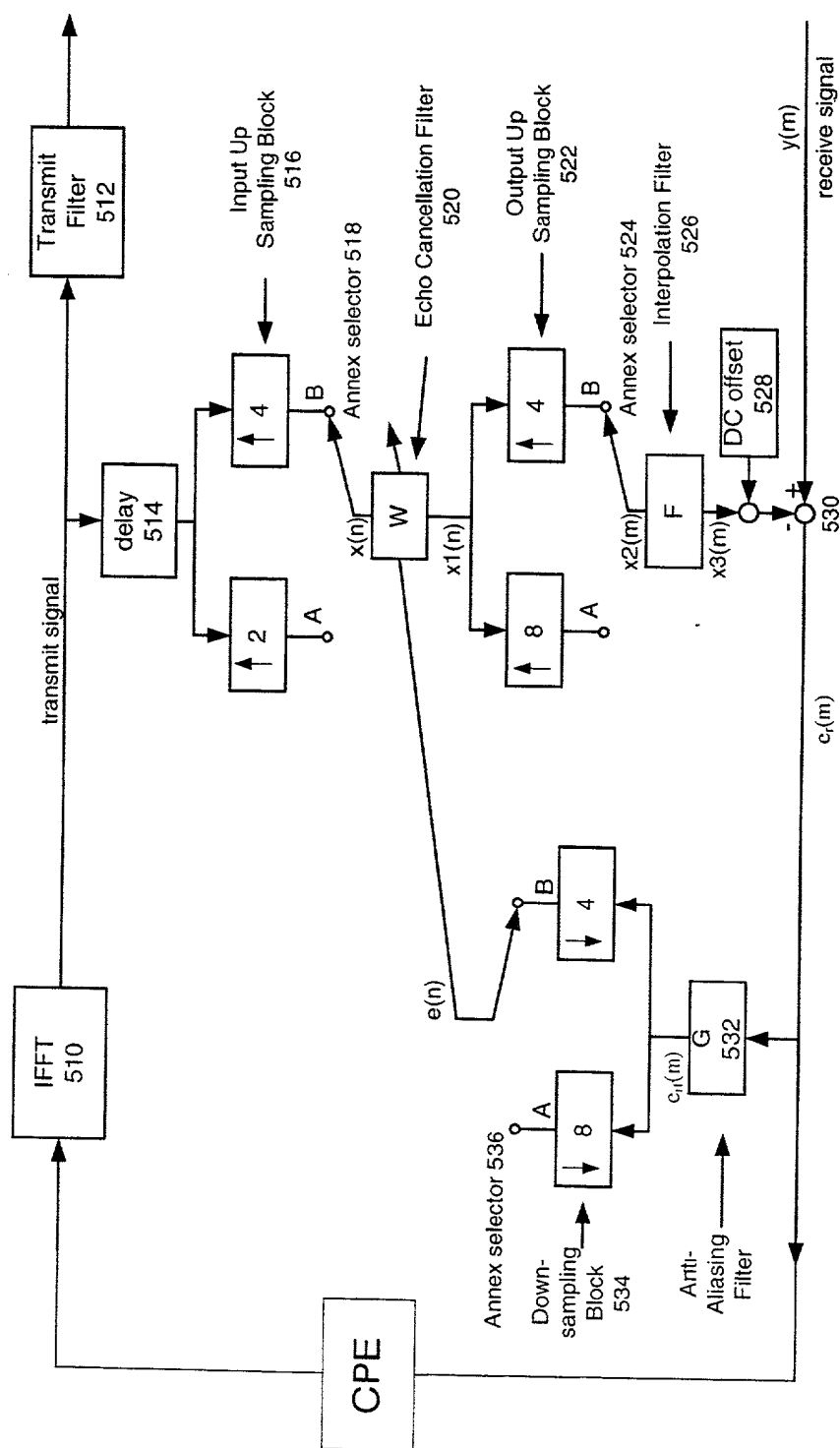


FIG. 5

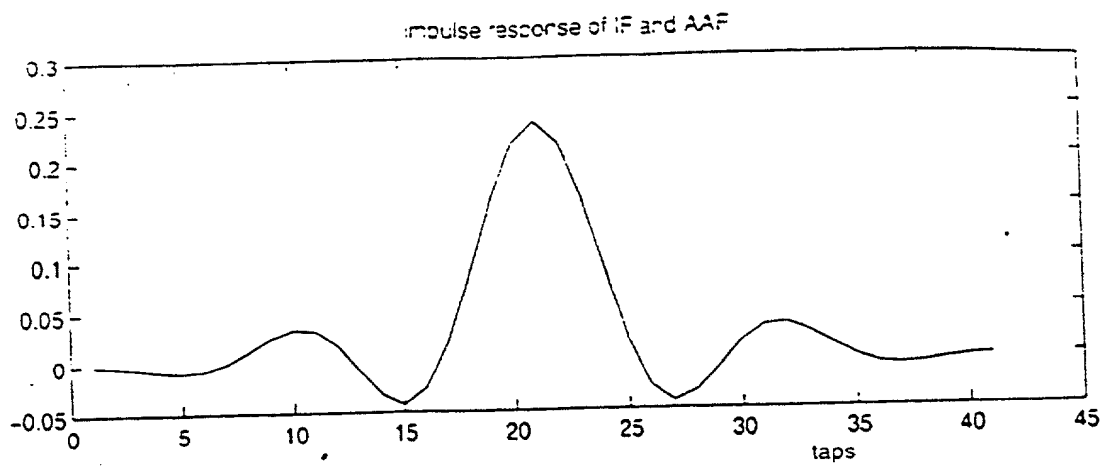


Figure 6

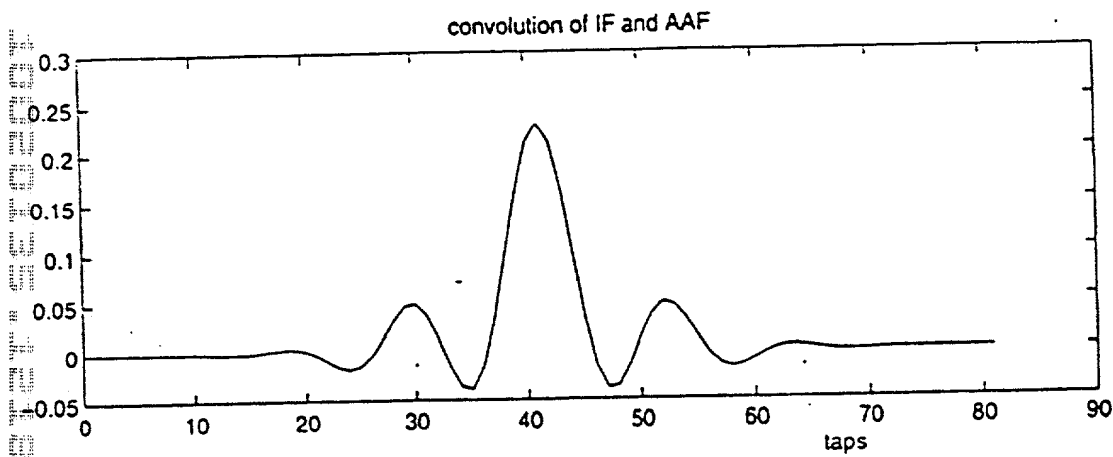


Figure 7

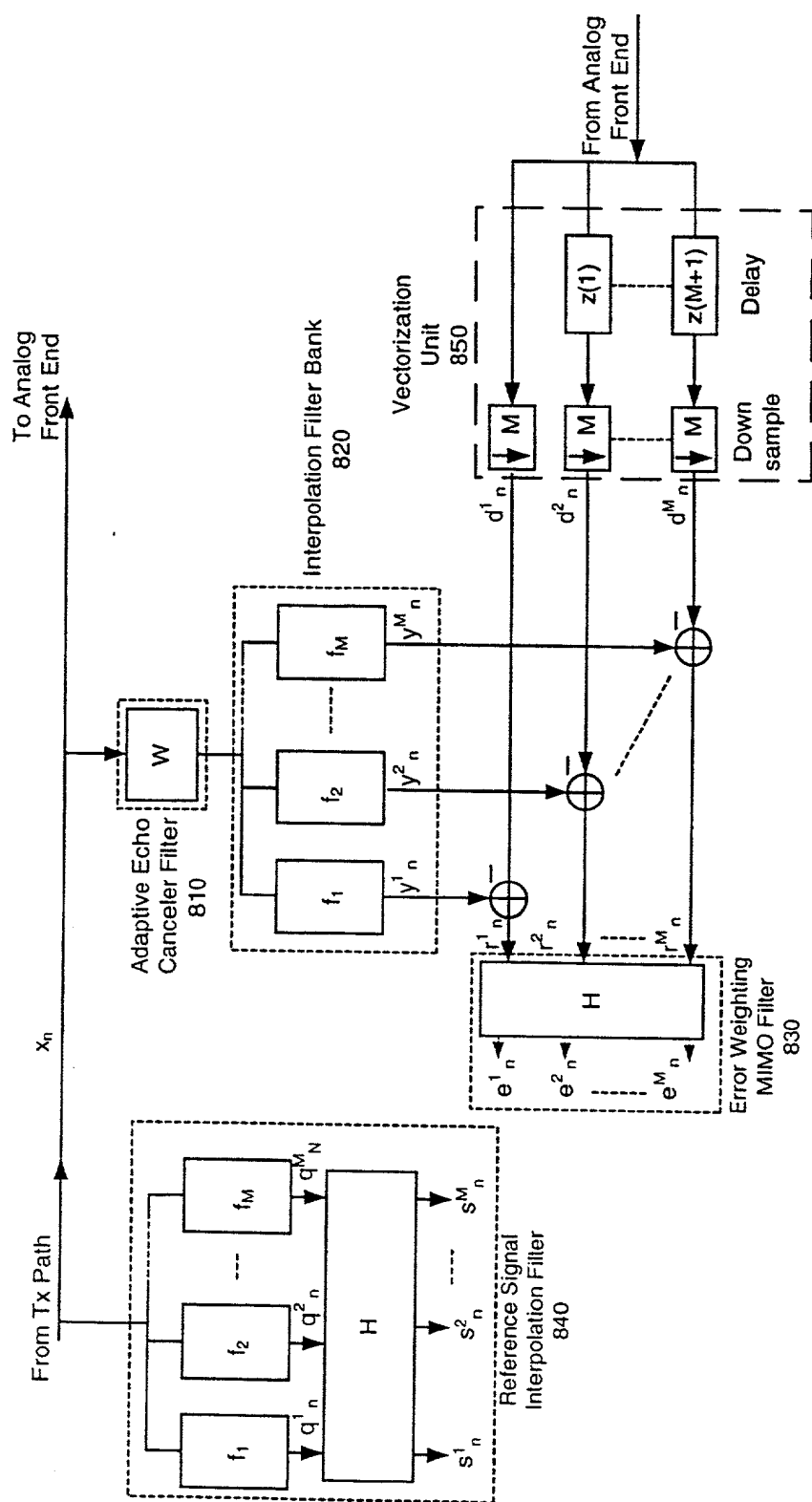


FIG. 8

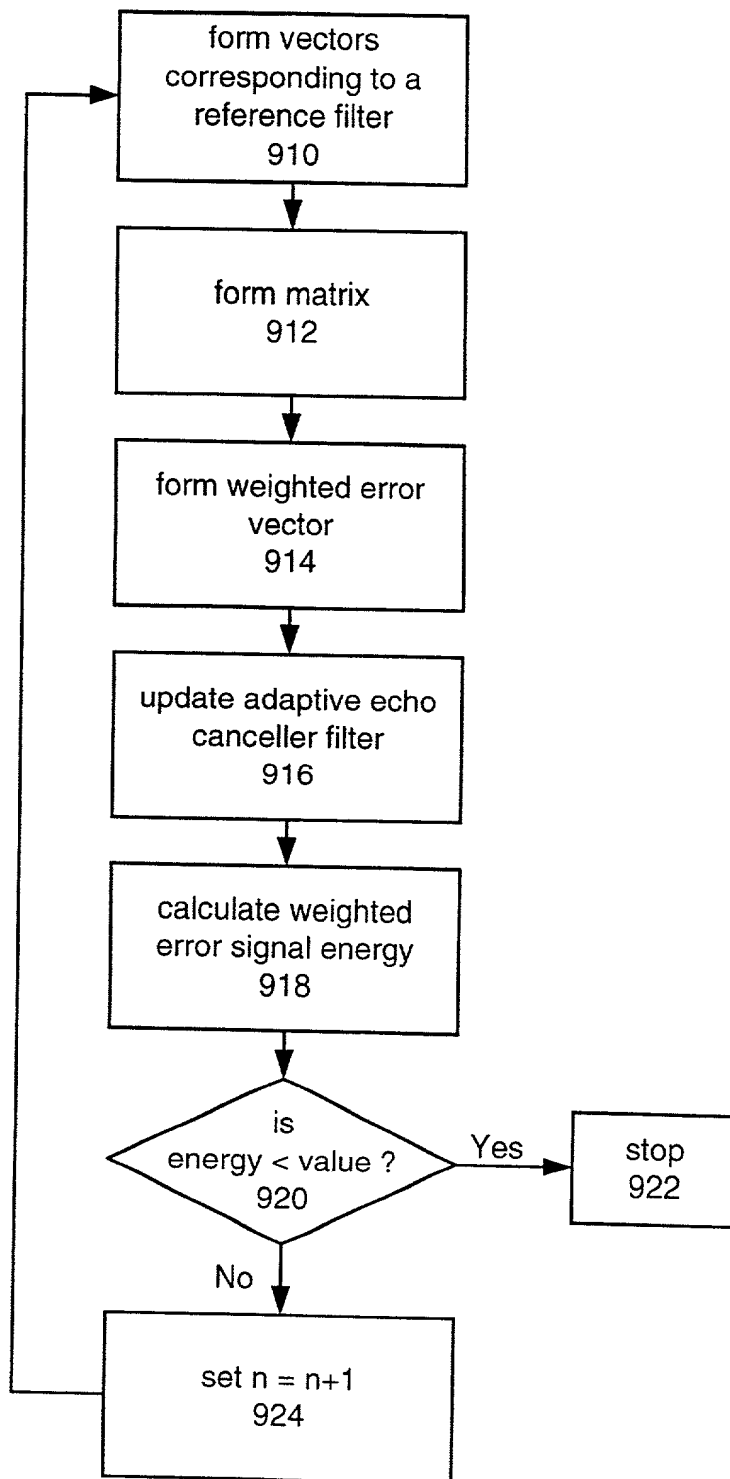


FIG. 9

FIG. 10a is a block diagram of a system 1000 for processing an input signal x_k to produce an output signal z_k . The system 1000 includes a block 1010 with an upward arrow M , a block 1012 labeled "h channel", a summing junction 1002, a block 1014 labeled "w TEQ", and a block 1016 with a downward arrow M . The input signal x_k enters block 1010, which outputs i_k to block 1012. Block 1012 outputs y_k to summing junction 1002. A disturbance signal v_k also enters summing junction 1002. The output of summing junction 1002 is y_k , which enters block 1014. Block 1014 outputs o_k to block 1016, which outputs the final signal z_k .

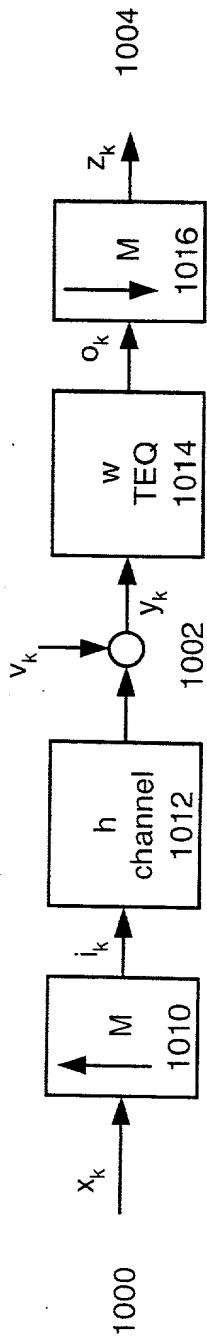


FIG. 10a

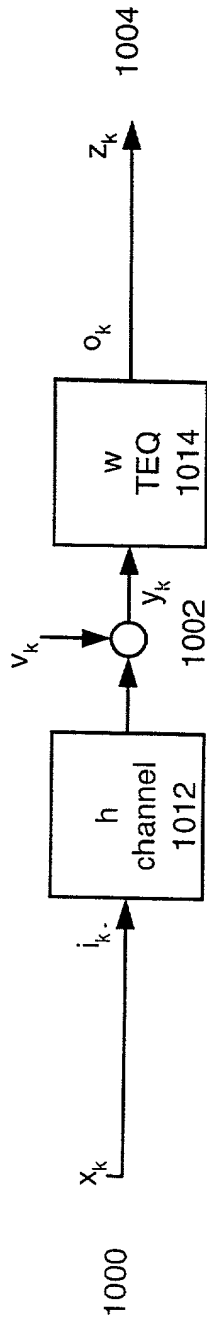


FIG. 10b

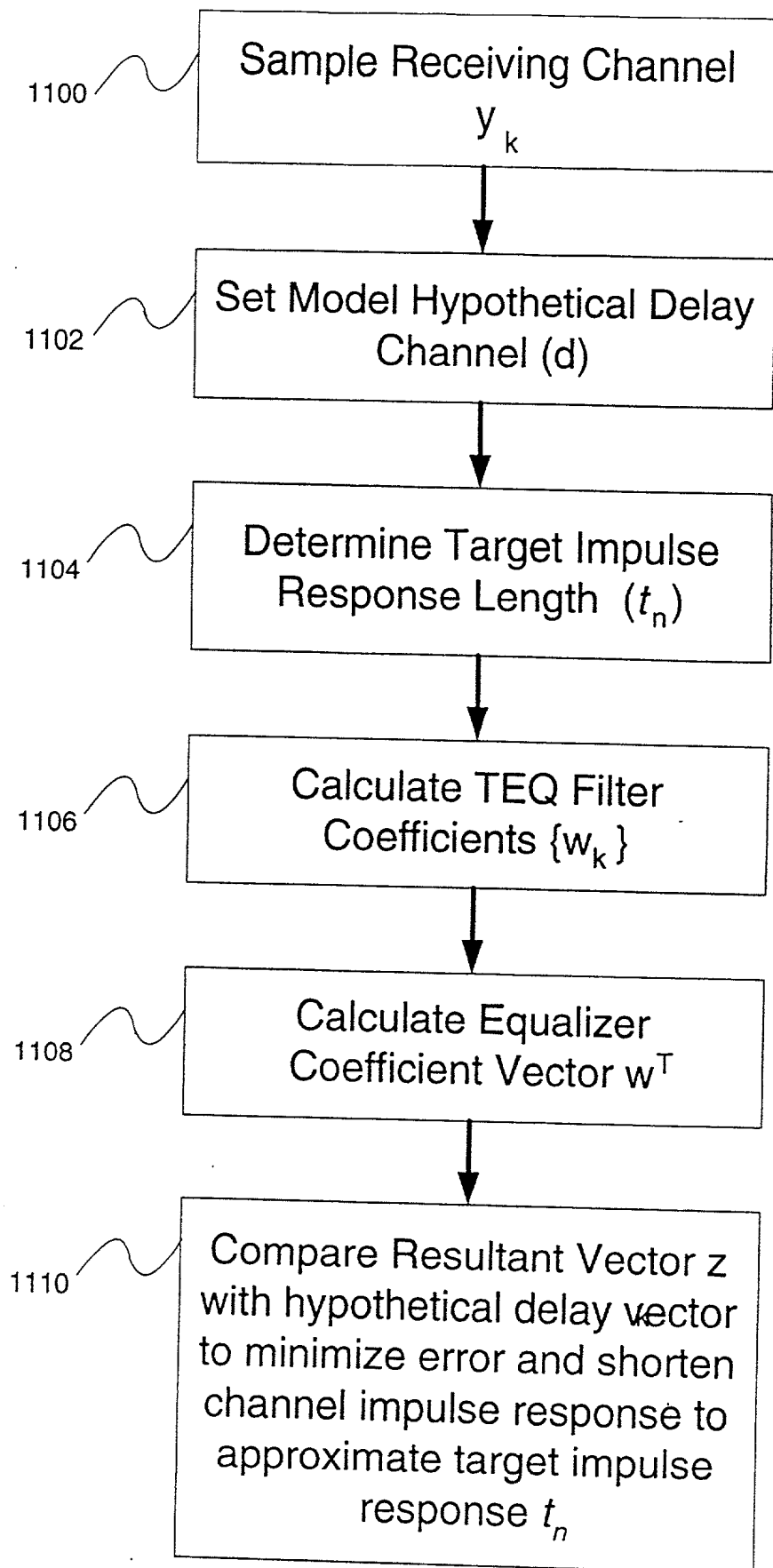


Fig. 11

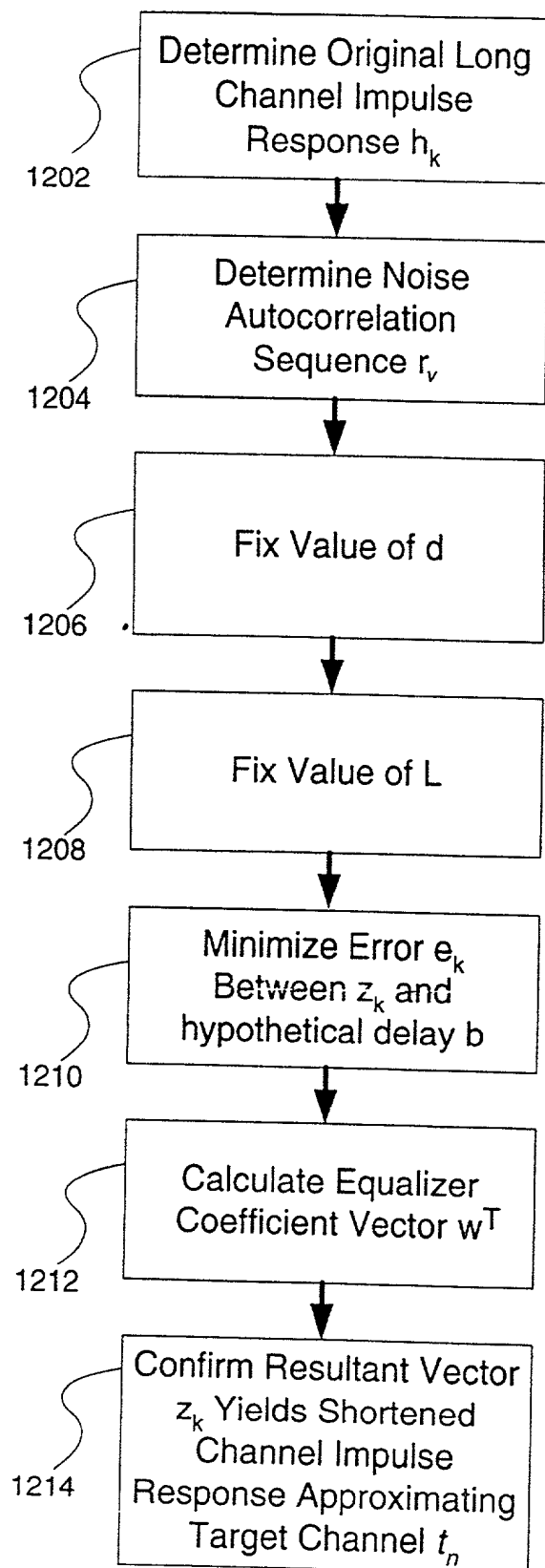


Fig. 12

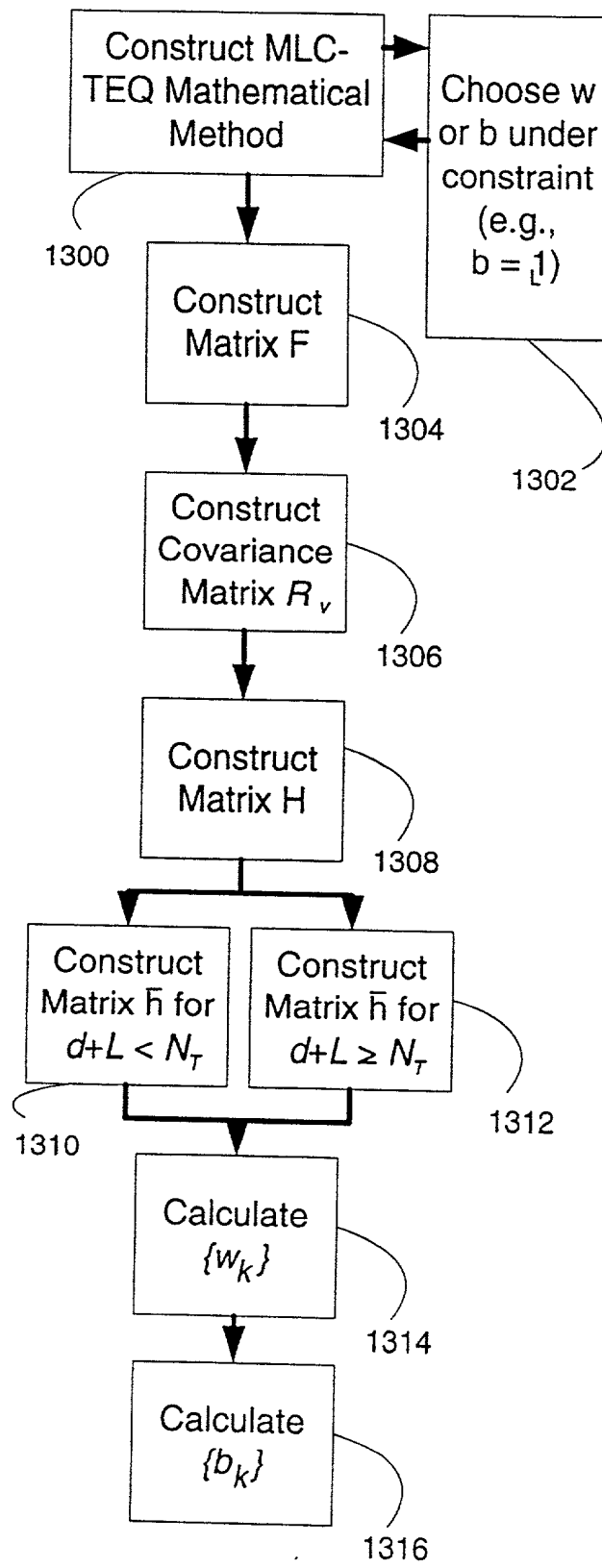


Fig. 13

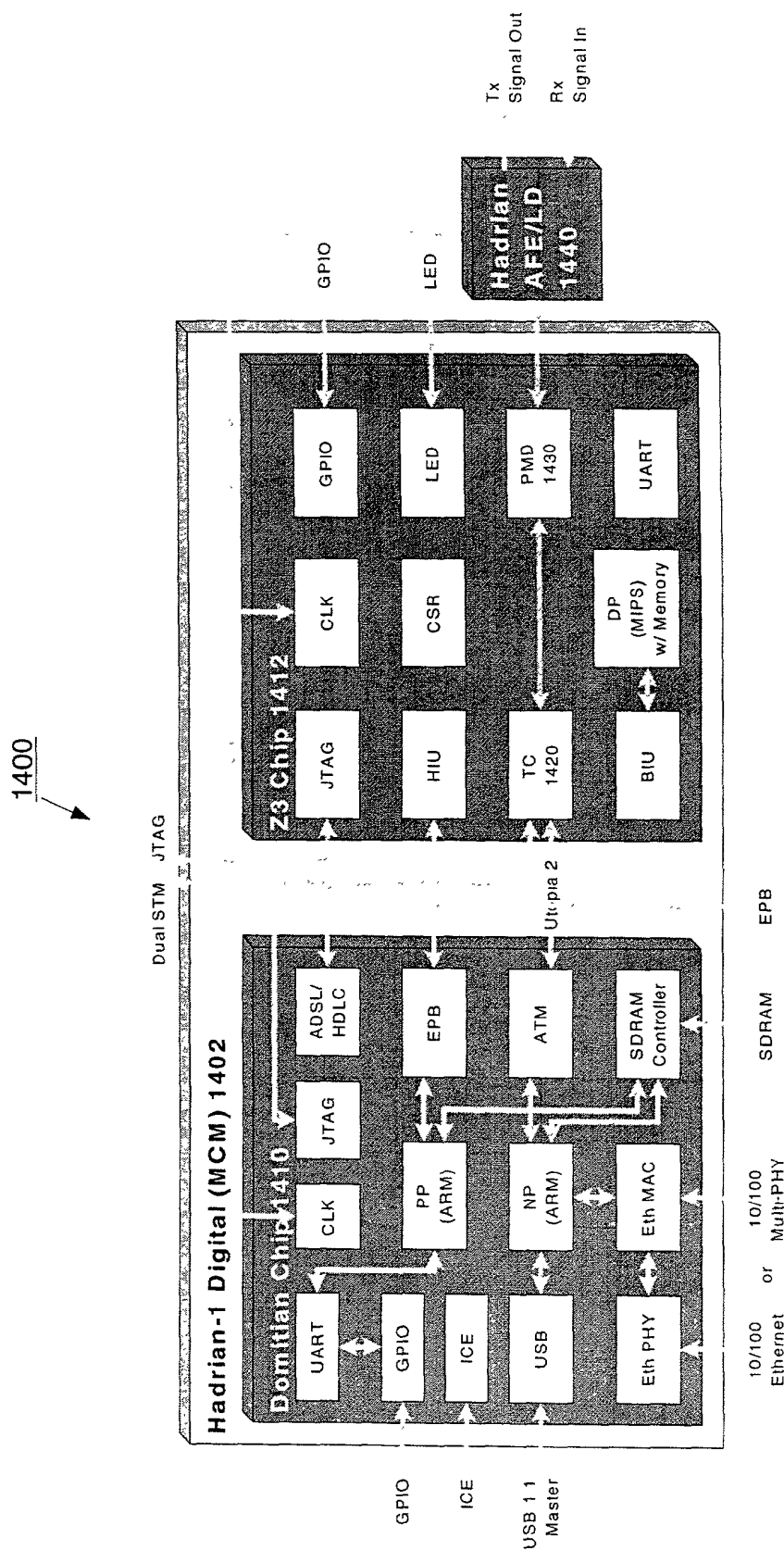


FIG. 14a

1500

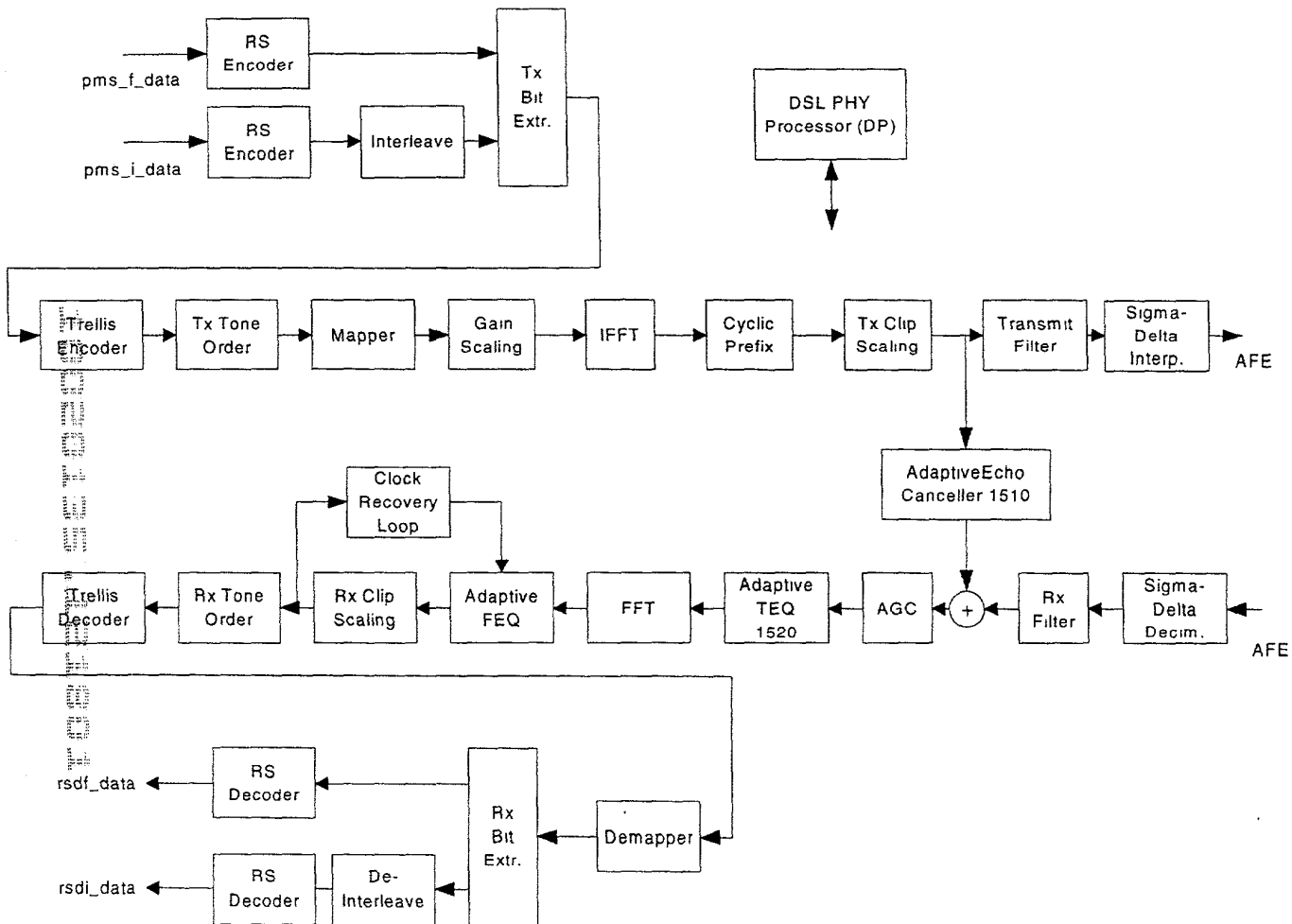


FIG. 15

1600

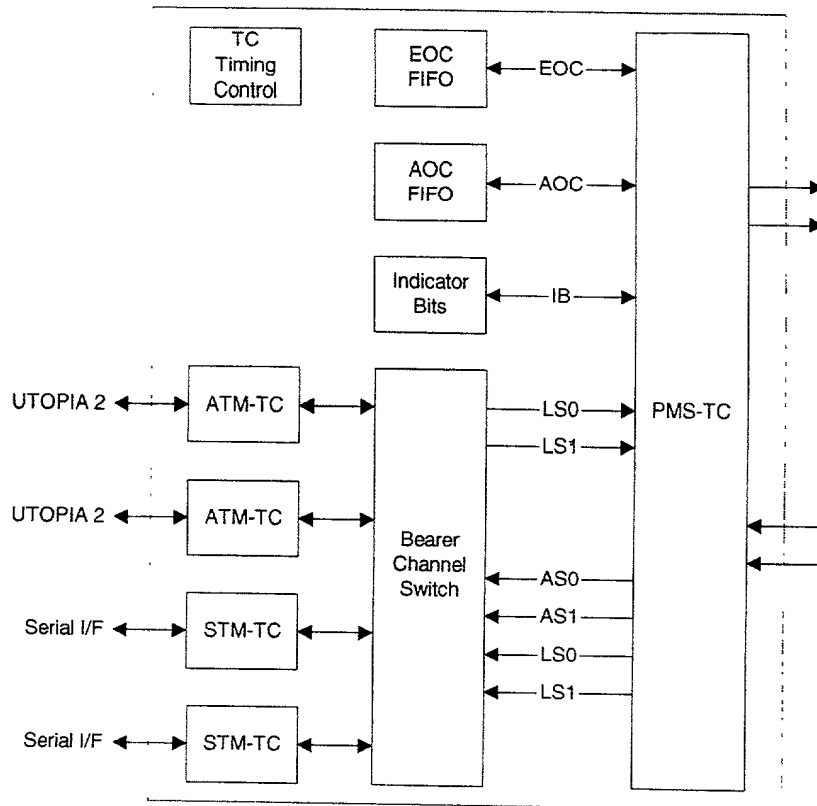


FIG. 16

1700

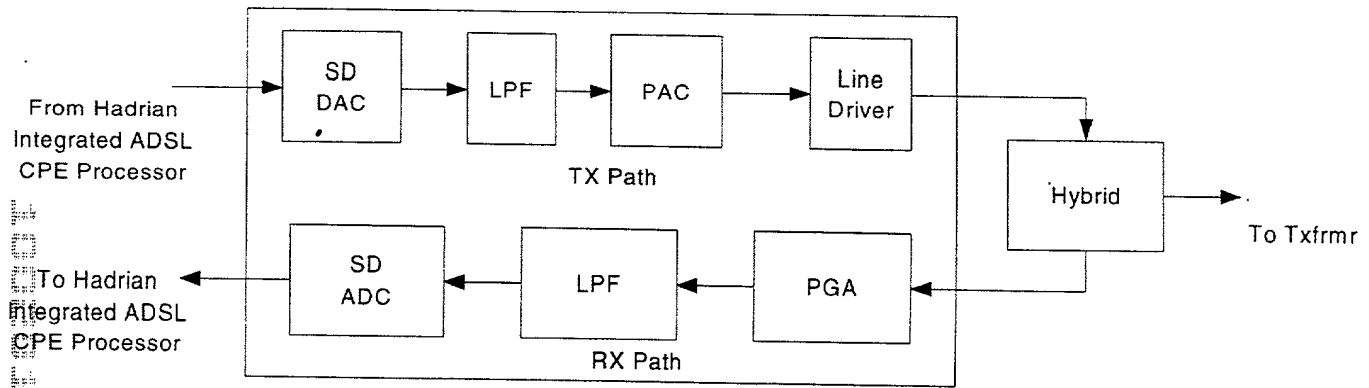


FIG. 17

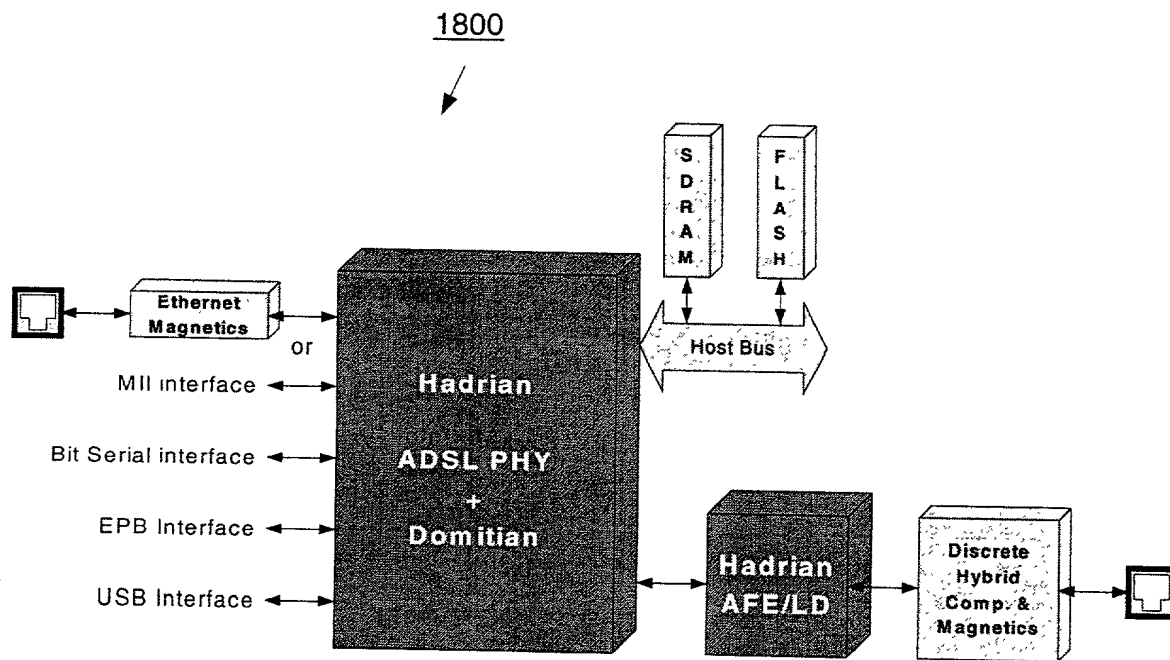


FIG. 18a

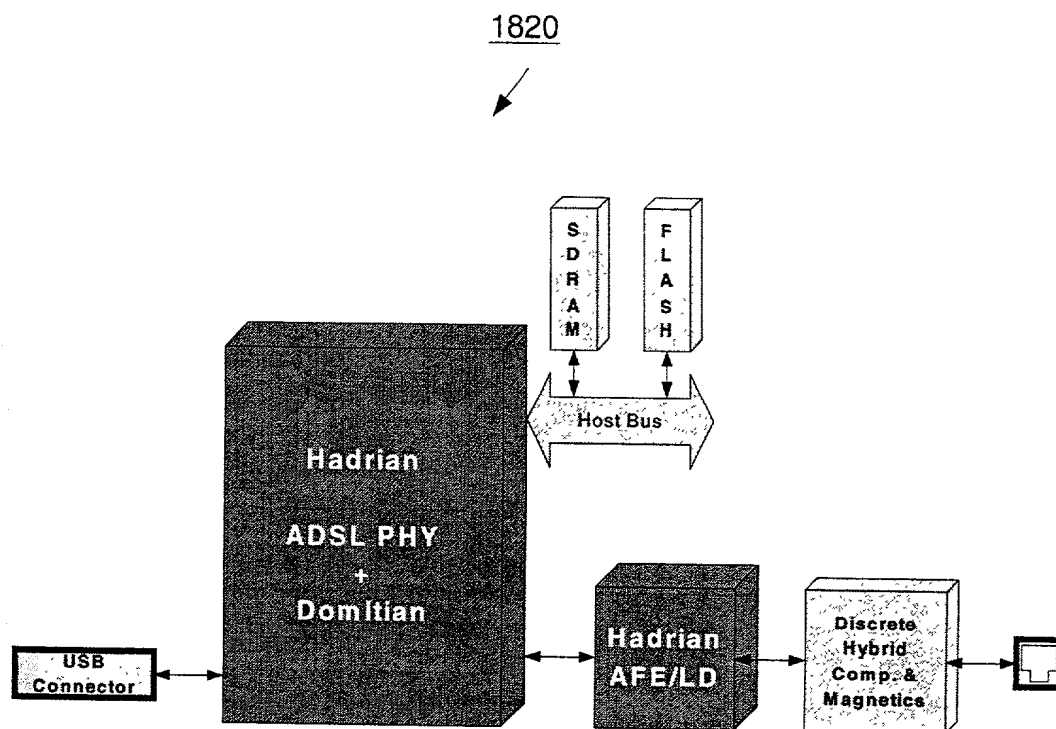


FIG. 18b

1840

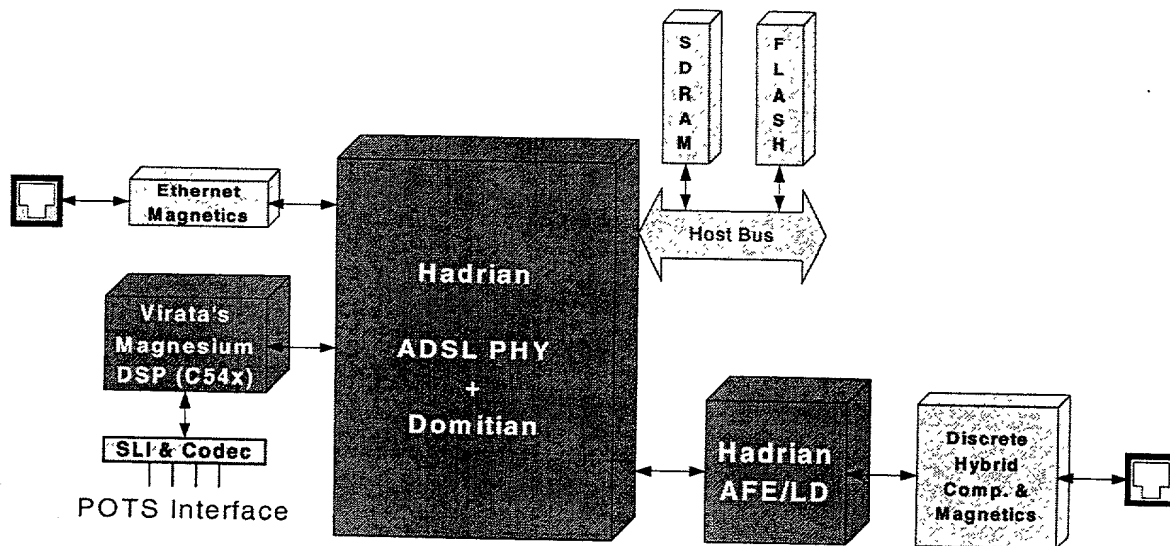


FIG. 18c